Rhodora

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NINTH REPORT OF THE COMMITTEE ON PLANT DISTRIBUTION

The present report deals with the tribes *Chlorideae*, *Festuceae* and *Hordeae* of the *Gramineae*, taken in the order of the seventh edition of Gray's Manual. This report completes the treatment of the *Gramineae* which has continued through two previous reports with which it has been prepared more or less concomitantly; acknowledgments there made apply equally here.

PRELIMINARY LISTS OF NEW ENGLAND PLANTS—XXXIV

The sign + indicates that an herbarium specimen has been seen: the sign − that a reliable printed record has been found.

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
I. Chlorideae						
Bouteloua curtipendula (Michx.) Torr.	+			+		+
Bouteloua gracilis (HBK.) Lag.	+			+		
Bouteloua radicosa (Fourn.) Griffiths	+			+		
Bouteloua rigidiseta (Steud.) Hitchc.	+			+		
Bouteloua simplex Lag.	+					
Chloris cucullata Bisch.	+					
Chloris virgata Swartz	+			+		
Cynodon dactylon (L.) Pers.				+		+
Dactyloctenium aegyptium (L.) Richter	+			+		
Eleusine indica (L.) Gaertn.				+	+	+
Leptochloa filiformis (Lam.) Beauv.				+		
Spartina alterniflora Loisel.	+	+		+	+	+
Spartina alterniflora var. pilosa (Merr.) Fern.	+	+		+	+	+
Spartina caespitosa A. A. Eaton	+	+		+	+	+
Spartina cynosuroides (L.) Roth				+		+
Spartina patens (Ait.) Muhl.	+	+		+	+	+
Spartina patens var. juncea (Michx.) Hitchc.	+	+		+	+	+

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
II. CHLORIDEAE—*Cont.*						
Spartina pectinata Link	+	+	+	+	+	+
Spartina pectinata var. Suttiei (Farwell) Fern.	+	+	+	+		+
II. FESTUCEAE						
Briza media L.			+	+		+
Briza minor L.	+		+	+	+	+
Bromus arvensis L.			+	+		+
Bromus brizaeformis Fisch. & May.			−	+		+
Bromus ciliatus L.	+	+	+	+	+	+
Bromus ciliatus var. intonsus Fern.	+	+	+	+	+	+
Bromus commutatus Schrad.	+			+	+	+
Bromus Dudleyi Fern.	+	+	+	+	+	+
Bromus erectus Huds.	+		+			+
Bromus inermis Leyss.	+	+	+	+		+
Bromus inermis f. aristatus (Schur.) Fern.	+			+		+
Bromus japonicus Thunb.				+		+
Bromus Kalmii Gray	+	+	+	+		+
Bromus latiglumis (Shear) Hitchc.	+	+	+	+		+
Bromus latiglumis f. incanus (Shear.) Fern.	+	+	+	+		+
Bromus marginatus Nees	+					+
Bromus marginatus var. seminudus Shear	+					
Bromus mollis L.	+			+	+	+
Bromus mollis f. leiostachys (Hartm.) Fern.						+
Bromus purgans L.		−	+	+	+	+
Bromus purgans f. glabriflorus Wieg.			−			+
Bromus purgans f. laevivaginatus Wieg.		+	+	+		+
Bromus racemosus L.	+		−	+	+	+
Bromus rigidus Roth var. Gussonii (Parl.) Coss. & Dur.				+		
Bromus rubens L.				+		
Bromus secalinus L.	+	+	+	+	+	+
Bromus sterilis L.				+	+	+
Bromus squarrosus L.						+
Bromus tectorum L.	+	+	+	+	+	+
Cynosurus cristatus L.	+	+	+	+	+	+
Dactylis glomerata L.	+	+	+	+	+	+
Dactylis glomerata var. ciliata Peterm.	+	+	+	+	+	+
Dactylis glomerata var. detonsa Fries	+	+		+	+	+
Dactylis glomerata var. vivipara (Lange) Carpenter			+			
Diplachne maritima Bickn.		+		+	+	+
Diplachne uninervia (Presl) Parodi				+		
Distichlis spicata (L.) Greene	+	+		+	+	+
Eragrostis capillaris (L.) Nees	+	+	+	+	+	+
Eragrostis Frankii C. A. Mey.		+	+	+		+
Eragrostis hypnoides (Lam.) BSP.	+	+	+	+		+
Eragrostis intermedia Hitchc.				+		
Eragrostis megastachya (Koel.) Link	+	+	+	+	+	+
Eragrostis multicaulis Steud.	+	+	+	+		+
Eragrostis pectinacea (Michx.) Nees	+	+	+	+	+	+
Eragrostis pilosa (L.) Beauv.		+		+		+
Eragrostis poaeoides Beauv.			+	+		+
Eragrostis spectabilis (Pursh) Steud.		+		+		+

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
II. Festuceae—*Cont.*						
Eragrostis spectabilis var. sparsihirsuta Farwell	+	+	+	+	+	+
Festuca capillata Lam.	+	+	+	+	+	+
Festuca elatior L.	+	+	+	+	+	+
Festuca obtusa Spreng.	+	+	+	+	+	+
Festuca ovina L.	+	+	+	+	+	+
Festuca ovina var. duriuscula (L.) Koch			−	+		+
Festuca ovina f. hispidula (Hack.) Holmb.			−	+		+
Festuca prolifera (Piper) Fern.	+	+				
Festuca rubra L.	+	+	+	+	+	+
Festuca rubra var. commutata Gaud.	+	+		+	+	+
Festuca rubra f. megastachys (Gaud.) Holmb.	+			+		+
Festuca rubra var. multiflora (Hoffm.) Asch. & Graeb.	+			+		
Festuca rubra f. squarrosa (Fries) Holmb.		+	+	+		+
Festuca rubra var. trichophylla Gaud.		+				
Festuca saximontana Rydb.			+			
Glyceria acutiflora Torr.	+	+	+	+	+	+
Glyceria borealis (Nash) Batchelder	+	+	+	+	+	+
Glyceria canadensis (Michx.) Trin.	+	+	+	+	+	+
Glyceria Fernaldii (Hitchc.) St. John	+	+	+	+		+
Glyceria fluitans (L.) R. Br.				+		
Glyceria grandis Wats.	+	+	+	+	+	+
Glyceria grandis f. pallescens Fern.	+					+
Glyceria laxa Scribn.	+	+		+		+
Glyceria melicaria (Michx.) Hubb.	+	+	+	+	+	+
Glyceria obtusa (Muhl.) Trin.	+	+		+	+	+
Glyceria pallida (Torr.) Trin.	+	+		+	+	+
Glyceria septentrionalis Hitchc.	+	+		+	+	+
Glyceria striata (Lam.) Hitchc.	+	+	+	+	+	+
Glyceria striata var. stricta (Scribn.) Fern.	+	+	+	+		
Molinia caerulea (L.) Moench.	+		+			+
Pappophorum mucronulatum Nees	+					
Phragmites communis Trin. var. Berlandieri (Fournier) Fern.	+		+	+	+	+
Poa alpigena (Fries) Lindm. f.	+	+				
Poa alsodes Gray	+	+	+	+		+
Poa angustifolia L.	+	+	+	+	+	+
Poa annua L.	+	+	+	+	+	+
Poa Chapmaniana Scribn.				+		
Poa compressa L.	+	+	+	+	+	+
Poa glauca Vahl	+	+	+			
Poa languida Hitchc.			−	+	+	+
Poa laxa Haenke	+	+	+			
Poa nemoralis L.	+	+	+	+	+	+
Poa nemoralis var. glaucantha (Gaud.) Reichenb.						+
Poa palustris L.	+	+	+	+	+	+
Poa pratensis L.	+	+	+	+	+	+
Poa saltuensis Fern. & Wieg.	+	+	+	+		+
Poa saltuensis var. microlepis Fern. & Wieg.	+	+				

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
II. FESTUCEAE—*Cont.*						
Poa sylvestris Gray			–			
Poa trivialis L.	+	+	–	+	+	+
Puccinellia distans (L.) Parl.	+		+	+		+
Puccinellia distans var. angustifolia (Blytt) Holmb.				+		
Puccinellia fasciculata (Torr.) Bickn.	+			+	+	+
Puccinellia maritima (Huds.) Parl.	+	+		+	+	
Puccinellia Nuttalliana (Schult.) Hitchc.	+		+			
Puccinellia paupercula (Holm) Fern. & Weath. var. alaskana (Scribn. & Merr.) Fern. & Weath.	+	+		+	+	+
Schizachne purpurascens (Torr.) Swall.	+	+	+	+	+	+
Schizachne purpurascens f. albicans Fern.	+	+				+
Scleropoa rigida (L.) Griseb.				+	+	
Triodia flava (L.) Smyth		+	+	+	+	+
Triplasis purpurea (Walt.) Chapm.	+	+		+	+	+
Vulpia megalura (Nutt.) Rydb.	+					
Vulpia myurus (L.) K. C. Gmel.	+			+	+	
Vulpia octoflora (Walt.) Rydb. var. tenella (Willd.) Fern.	+	+	+	+	+	+
III. HORDEAE						
Agropyron pungens (Pers.) R. & S.	+			+		
Agropyron repens (L.) Beauv.	+	+	+	+	+	+
Agropyron repens f. aristatum (Schum.) Holmb.	+	+	+	+	+	+
Agropyron repens f. pilosum (Scribn.) Fern.	+	+		+		+
Agropyron repens var. subulatum (Schreb.) Reichenb.	+	+	+	+	+	+
Agropyron repens var. subulatum f. heberhachis Fern.	+			+	+	
Agropyron repens var. subulatum f. setiferum Fern.	+	+	+	+		+
Agropyron repens var. subulatum f. Vaillantianum (Wulf. & Schreb.) Fern.	+	+	+	+	+	+
Agropyron repens f. trichorrhachis Rohlena	+	+	–	+		+
Agropyron Smithii Rydb.		+				
Agropyron trachycaulum (Link) Malte var. glaucum (Pease & Moore) Malte	+	+	+	+		+
Agropyron trachycaulum var. majus (Vasey) Fern.	+	+	+			
Agropyron trachycaulum var. novae-angliae (Scribn.) Fern.	+	+	+	+	+	+
Elymus arenarius L. var. villosus E. Mey.	+	+		+		
Elymus canadensis L.	+	+	+	+		+
Elymus canadensis f. glaucifolius (Muhl.) Fern.			+	+	+	+
Elymus caput-medusae L.						+
Elymus riparius Wieg.	+	+	+	+	+	+
Elymus villosus Muhl.			+	+	+	+
Elymus villosus f. arkansanus (Scribn. & Ball) Fern.			+	+		+
Elymus virginicus L.	+	+	+	+	+	+

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
III. Hordeae—*Cont.*						
Elymus virginicus f. hirsutiglumis (Scribn.) Fern.	+	+	+	+	+	+
Elymus virginicus var. glabriflorus (Vasey) Bush		+	+	+		+
Elymus virginicus f. australis (Scribn. & Ball) Fern.			+	+	+	+
Elymus virginicus var. halophilus (Bickn.) Wieg.	+			+	+	+
Elymus virginicus var. jejunus (Ramaley) Bush	+					
Elymus virginicus var. submuticus Hook.				+	+	
Elymus Wiegandii Fern.	+	+	+	+		+
Elymus Wiegandii f. calvescens Fern.	+	+		+		
Hordeum aegiceras L.			+			
Hordeum jubatum L.	+	+	+	+	+	+
Hordeum marinum Huds.				+		
Hordeum murinum L.	+			+		+
Hordeum nodosum L.	+			+		
Hordeum pusillum Nutt.	+					
Hordeum vulgare L.	+	+	+	+	+	+
Hordeum vulgare var. trifurcatum (Schlecht.) Alefeld	+					+
Hystrix patula Moench	+	+	+	+	+	+
Hystrix patula var. Bigeloviana (Fern.) Deam	+	+	+	+	+	+
Lolium multiflorum Lam.	+	+	−	+	+	+
Lolium multiflorum var. diminutum Mutel	+	+	+	+		+
Lolium perenne L.	+	+	−	+	+	+
Lolium temulentum L.	+		−	+	+	+
Lolium temulentum var. leptochaetum A. Br.				+		+
Nardus stricta L.		+				
Secale cereale L.	+	+	+	+	+	+
Triticum aestivum L.	+	+	−	+	+	+

For an explanation of names in the above list which are not to be found in Gray's Manual, the following references may be consulted: Fernald, RHODORA XVIII. 177 and XXXV. 258 (*Spartina*); Fernald, RHODORA XXXII. 63 and XXXV. 316, Hitchcock, RHODORA VIII. 211, and Wiegand, RHODORA XXIV. 89 (*Bromus*); Fernald, RHODORA XXXV. 137 (*Dactylis*); Fernald, RHODORA XL. 108 (*Eragrostis multicaulis*); Hubbard, RHODORA XVIII. 235, Fernald, RHODORA XXXIV. 209, XXXV. 132 and XXXVII. 250 (*Festuca*); Fernald, RHODORA XL. 107 (*Vulpia*); St. John, RHODORA XIX. 75, Hubbard, RHODORA XIV. 186, and Fernald, RHODORA XXXI. 211 (*Glyceria*); Fernald, RHODORA XXXIV. 211 (*Phragmites*); Hubbard, RHODORA XVIII. 235 (*Poa palustris*); Fernald & Wiegand, RHODORA XX. 122 (*Poa saltuensis* and variety); Fernald & Weatherby, RHODORA XVIII.

1 (*Puccinellia*); Fernald, RHODORA XXX. 161 (*Agropyron*); Wiegand, RHODORA XX. 81, and Fernald, RHODORA XXXV. 187 (*Elymus*); Fernald, RHODORA XXIV. 229 (*Hystrix patula* var. *Bigeloviana* as *Asperella Hystrix* var. *Bigeloviana*). Additional names not given in Gray's Manual may be found in "Manual of the Grasses of the United States" by A. S. Hitchcock, Washington, 1935.

Geographically, the ranges of the groups here considered are well divided between northern and southern, as in our preceding report, (RHODORA XXXVIII. 263–271). The grasses in this list belong in geographic groups which have been used and defined in previous reports. As usual, varieties and forms which seem to have no geographic significance within our area are omitted. There are no strictly calcicolous representatives, nor are there grasses which have a range covering the region east of the Connecticut River only.

I. Generally distributed:—*Agropyron repens*, *Elymus virginicus*, *Glyceria canadensis*, *G. Fernaldii*, *G. grandis*, *G. striata*, *Poa angustifolia*, *P. palustris* and *P. pratensis*.

Agropyron repens, the familiar witchgrass of fields and gardens, seems not to have been extensively collected inland, perhaps because of its general abundance in settled areas; *Glyceria Fernaldii* has but one report from Cape Cod, none from Nantucket, Martha's Vineyard or Rhode Island, but has been collected at several stations in Connecticut, which is apparently near its southern limit of distribution.

Poa alpigena and *P. angustifolia* are generally merged in this country with an all-inclusive *P. pratensis* L. Professor Fernald supplies the following memorandum. "In both *P. pratensis* and *P. angustifolia* all or nearly all of the culms bear erect or strongly ascending tufts of new green leaves from the basal sheaths, whereas *P. alpigena* has the culms chiefly arising from among old dried leaves at the tips of last year's stolons, the basal leaf-tufts all or nearly all on separate prolonged stolons or offsets. In *P. pratensis* the soft to firm culms are compressed at base and often geniculate, 2–3 mm. thick at base; the basal leaves flat or flattish, as broad as the thickness of the culm; glumes lanceolate to ovate, nearly straight. *P. angustifolia* has the firm and erect culms terete at base, there 1–2 mm. thick; basal shoots with some

(often numerous) filiform to involute blades much more slender than the culm; glumes narrowly lanceolate, the second one arching. In both these species the lemma is copiously webbed at base, the intermediate nerves glabrous, but in *P. alpigena* the nerves are pubescent. The latter boreal species extends south to Newfoundland, the Magdalen Islands, Prince Edward Island, northern Maine, and the alpine region of Mount Washington, New Hampshire."

II. Rather general except in southeastern Massachusetts;—*Agropyron trachycaulum* var. *glaucum*, *Bromus ciliatus* var. *intonsus*, *Glyceria borealis*, *G. melicaria*, *Poa saltuensis*.

Southward *Glyceria borealis* extends to northern Rhode Island and Connecticut, but apparently is absent from the central and southern sections of these states. *Glyceria melicaria* is missing from Rhode Island and eastern Massachusetts, save for one station on the Merrimack River. *Poa saltuensis* is not present in southeastern New Hampshire, eastern Massachusetts or Rhode Island.

III. Northern A. (with numerous stations south of 43°): *Agropyron trachycaulum* var. *novae-angliae*, *Bromus ciliatus*, *Glyceria striata* var. *stricta*, *Poa nemoralis*.

IV. Northern B. (with not many stations south of 43°): *Agropyron trachycaulum* var. *majus*, *Poa glauca*, *P. saltuensis* var. *microlepis*.

Agropyron trachycaulum var. *majus* has been collected in Maine in the Katahdin and Kineo regions, in Washington County and sparingly westward along the coast; in New Hampshire at Northumberland, Woodstock and in the White Mountain Region; and in Vermont at Canaan. It is also reported in the Vermont Flora from Willoughby and scattered stations in the western part of the state.

V. Alpine: *Festuca prolifera*, *F. saximontana*, *Poa laxa*, *P. alpigena* (except in northern Maine).

Festuca prolifera has been collected on Mount Washington and Katahdin as has also *Poa laxa*. The latter also is found on Mount Mansfield. *Festuca saximontana* has been collected at Smuggler's Notch and *Poa alpigena* on Mount Washington.

VI. Neither northern Maine nor southeastern Massachusetts: *Elymus riparius*, *Festuca obtusa*, *Hystrix patula*, *H. patula* var. *Bigeloviana*.

Elymus riparius, as its name indicates, is a plant of river shores. *Festuca obtusa*, *Hystrix patula* and its variety are plants of rich mainly deciduous woods. None of these species extend east of the Kennebec valley. *Festuca obtusa*, in fact, has but one Maine station (Vassalboro). The absence of these species from northern and eastern Maine might give a false impression of the distribution of the species as a whole as *Hystrix* and *Festuca obtusa* are both found on North Mountain, Nova Scotia and in the St. John Valley, New Brunswick.

VII. Chiefly the three southern states:—*Bromus Kalmii*, *B. purgans*, *Elymus canadensis*, *E. villosus*, *Eragrostis capillaris*, *E. pectinacea*, *E. spectabilis*, *E. spectabilis* var. *sparsihirsuta*, *Glyceria acutiflora*, *G. pallida*, *G. septentrionalis*, *Poa languida*, *Triodia flava*, *Vulpia octoflora* var. *tenella*.

While these species are chiefly found in southern New England, some of them do extend into Maine, *Bromus Kalmii* reaching Oxford County, Maine, and *Elymus canadensis* reaching Maine, as well as northern New Hampshire and northern Vermont (also New Brunswick). Many of these species have also been collected in western Vermont. Several of these species are absent from western Massachusetts and from southeastern Massachusetts, Martha's Vineyard and Nantucket. These include *Bromus Kalmii*, *B. purgans*, *Elymus canadensis*, *E. villosus*, *Eragrostis capillaris*, *Poa languida*.

The typical smooth form of *Eragrostis spectabilis* has been collected at three stations in southern New Hampshire, at two in the Boston area, on Martha's Vineyard and Nantucket, and at Bridgeport, Connecticut. The variety *sparsihirsuta*, which is poorly named, since it is usually conspicuously hirsute, is extremely abundant and extends considerably further northward.

VIII. Western New England only:—*Eragrostis Frankii*, *E. hypnoides*. *Eragrostis hypnoides* occurs along Lake Champlain and Otter Creek in Vermont, near the Housatonic River in Western Massachusetts and Connecticut, and on the Connecticut River as far north as the Hanover region. There is a single station on the Stillwater River at Orono, Maine. *Eragrostis Frankii* is more restricted with stations at Manchester and Walpole, New Hampshire, Westminster, Vermont, and numerous stations along the lower Connecticut River and westward.

IX. Maritime (in the vicinity of the coast with no inland stations):—*Diplachne maritima*, *Distichlis spicata*, *Elymus arenarius* var. *villosus*, *E. virginicus* var. *halophilus*, *Puccinellia fasciculata*, *P. maritima*, *P. paupercula* var. *alaskana*, *Spartina alterniflora*, *S. alterniflora* var. *pilosa*, *S. caespitosa*, *S. cynosuroides*, *S. patens*, *S. patens* var. *juncea*, *Triplasis purpurea*.

Diplachne maritima is at Seabrook, New Hampshire, has one report from the Boston region, and is occasional from Falmouth and Nantucket, Massachusetts, westward along the coast. *Distichlis spicata* is common as far north as Cumberland County, Maine with outlying stations at Rockland and South Thomaston. *Elymus arenarius* var. *villosus* is a boreal species abundant on the Maine coast westward to Cape Elizabeth, with isolated stations at Hampton and Isles of Shoals, New Hampshire, Cape Ann and Provincetown, Massachusetts. *Puccinellia fasciculata* is known from Great Duck Island, Maine, Plum Island, Massachusetts, and from Cape Cod westward. *Puccinellia maritima* is more local, ranging from Newport, Rhode Island, to Casco Bay, Maine, with eastern outposts at Ocean Point and Isle au Haut. *Puccinellia paupercula* var. *alaskana*, a boreal species, is abundant westward to New Hampshire, and has isolated stations at Wellfleet, Hyannis, Gay Head and Cuttyhunk, Massachusetts, Westerly, Rhode Island, and Old Lyme, Connecticut. *Spartina caespitosa* is rather local, occurring from the Thames River, Connecticut, to Seabrook, New Hampshire, with a single station at South Thomaston, Maine. *Spartina cynosuroides* has been collected in Massachusetts at Salisbury, Nantucket, and Sandwich, Dennis and Brewster on Cape Cod; and at several stations from the mouth of the Connecticut River westward. *Spartina patens* var. *juncea* is common as far north as Plum Island, Massachusetts and Seabrook, New Hampshire. *Triplasis purpurea* is frequent northward to York, Maine.

X. Miscellaneous:—*Agropyron repens* var. *subulatum*, *Bromus Dudleyi*, *B. latiglumis*, *Festuca rubra*, *Glyceria laxa*, *G. obtusa*, *Phragmites communis* var. *Berlandieri*, *Spartina pectinata*.

Agropyron repens var. *subulatum*, while essentially a plant of seashore areas, also follows the rivers and sand plains inland. *Bromus Dudleyi*, an early blooming grass closely related to *B. ciliatus*, might be considered as belonging in the Northern A

group were it not for the fact that it seems to be absent from northern Maine and northern Vermont. Although it has been collected only at scattered stations it is often abundant where it does occur. *Bromus latiglumis* does not occur in southeastern Maine (east of the Kennebec River), in southeastern Massachusetts, or in Rhode Island. *Glyceria laxa*, a plant of moist soil, often flourishing in wet peat and wet glades of the Canadian type of forest, is frequent in Washington County, Maine, on Mount Desert, and in the Penobscot Bay region. It has also been collected at Milford, Monhegan and South Berwick, Maine, Wolfeboro and Hooksett, New Hampshire, Everett, Massachusetts, and Colebrook, Connecticut. *Glyceria obtusa* has the general range of a typical coastal plain species, save that it is apparently absent from Nantucket. There is no specimen available from that island, nor is it listed in Bicknell's Flora. It does occur, however, on the other outlying islands, Martha's Vineyard, the Elizabeth Islands and Block Island. *Phragmites communis* var. *Berlandieri* is abundant locally along the coast of Massachusetts, Rhode Island and Connecticut. There is no New Hampshire record, but there are scattered stations on the Maine coast as far east as Frankfort on the Penobscot River. Inland its distribution is erratic with scattered stations in northern Maine, western Vermont, western Massachusetts and Connecticut. *Spartina pectinata* is very abundant along the entire coast and occurs inland on sandy soil especially along lakes and rivers as far north as the St. Johns River in Maine, and Lakes Memphramagog and Champlain in Vermont. Naturally it is absent from mountainous regions.

There are a very large number of introduced grasses in the three tribes considered in this report. Many of these are waifs or casuals which have been found in vacant lots in cities and have appeared only once or twice. Wool waste has brought in many species. Others like the Festucas, *Lolium* and *Cynosurus* have come in with grass seed. Several of these grasses have become very persistent weeds, as in the case of *Bromus tectorum*, *Hordeum jubatum*, and in some cities, *Eleusine indica*.

The Boston region has produced a large number of these grasses, partly because of the extensive areas of unoccupied land, and partly because so many metropolitan botanists collected

extensively in these waste places, especially during the days when ballast was unloaded by incoming vessels.

Among the wool-waste plants are *Chloris elegans*, *C. cucullata*, the Boutelouas, and *Hordeum pusillum*.

R. C. Bean
C. H. Knowlton
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CONTRIBUTIONS FROM THE GRAY HERBARIUM OF HARVARD UNIVERSITY—NO. CLX

TECHNICAL STUDIES ON NORTH AMERICAN PLANTS

M. L. Fernald

(*Continued from page 16*)

1. Salix eriocephala Michx. Fl. Bor.-Am. ii. 225 (1803) is represented by a good branch (except for broken leaf-tips) of the foliage "oblongo-ovalibus, basi subretusis, serrulatis", which my note of 1903 described "foliage of oblong-leaved *cordata*", and a flowering branch which clearly gave the name to the species, "S. diandra: ramulis minutim tomentosis: . . . amentis ovalibus, confertim villosissimis", "*Hab.* in regione Illinoensi", my note on it being "flowering branch near *discolor*". The type is material of the tomentulose-branched *S. missouriensis* Bebb in Garden and Forest, viii. 379 (1895). It has been erroneously placed with *S. discolor* as *S. discolor* Muhl., var. *eriocephala* (Michx.) Anderss. in DC. Prodr. xvi². 225 (1868), the very large precocious aments and long (up to 1 cm.) capsules having deceived those who did not consider its other characters, into thinking it *S. discolor*. Michaux's "foliis oblongo-ovalibus, basi subretusis" is not good for *S. discolor* which becomes relatively local in southern Illinois and adjacent eastern Missouri. Michaux collected his *S. eriocephala* "in regione Illinoensi". That meant southernmost Illinois, for Michaux went down the Ohio, camped at the mouth of the Wabash and then proceeded to the Mississippi near the mouth of the Ohio. Here *S. missouriensis* abounds ("Plants of the Lower Wabash Valley", Robt. Ridgeway, no. 1580), Ball explicitly referring to it "in Illinois along the Ohio River near its